

CHAPTER II

LITERATURE REVIEW

2.1 Ingredients Review

2.1.1 Breadfruit

Breadfruit (*Artocarpus altilis*) is one type of plant that is widely developed in various countries (Elevitch & Ragone, 2018). This is proven by the wide distribution of breadfruit plants from Aceh to Papua (Rajendran, 1992). Breadfruit can be processed into flour which can then be processed into a variety of food menus with high economic value (Widowati, 2009; Supriati, 2010). In addition to the fruit, the utilization of breadfruit continues to be researched and developed from the leaves and stem bark as medicinal materials to overcome various kinds of disease disorders (Abdassah, et al). Breadfruit development in Indonesia is generally still traditional by utilizing saplings from the local area (Adinugraha & Setiadi, 2015). Limited information on cultivation techniques and the variety of breadfruit cultivars in the archipelago and the variety of breadfruit utilization causes the development of this plant species is not rapid, so it is sometimes difficult to obtain.

2.1.2 Soybean

In Indonesia, soybean use focuses on the consumption of tempeh and tofu, which are part of the diet (Astuti, 2012). The majority of Indonesian people prefer to consume soybeans in processed forms such as tofu, tempeh, tauco, oncom, soy sauce, and soy sauce (Salman & Rahma, 2018). According to Anonymous (2016), the average consumption of tempeh per person per year in Indonesia is 6.99 kg and tofu is 7.51 kg. Ironically, the fulfillment of the need for soybeans, which is the main raw material for tempeh and tofu, 67.28% or as much as 1.96 million tons must be imported from abroad. This happens because of the lack of quality of soybeans in the country is inadequate

in quality and accompanied by the reduction of agricultural land due to the conversion of land into residential areas such as housing and industrial sites.

2.1.3 Oyster Mushroom

Oyster mushrooms are not only known as delicious and highly nutritious food mushrooms. Oyster mushrooms are known as nutraceutical ingredients because they are antimicrobial and antioxidant. Evidenced in research (Saskiawan and Hasanah, 2015) showed the best inhibition at 9.57 mm and 8.55 mm against *Bacillus subtilis* and *E. coli* bacteria. In addition, the antioxidant ability of white oyster mushrooms shows a positive thing, namely the percentage of residual color bleach using polysaccharide compound bleaching is 96.43% (Saskiawan and Hasanah, 2015).

2.2 Product Review

Analogue meat has several advantages compared to real meat, including lower saturated fatty acids (Hoek et al., 2010). The global plant-based meat industry is projected to increase from US\$ 4.6 billion in 2018 to US\$ 85 billion by 2030. A milestone will occur in 2026, reaching US\$ 30.9 billion, although it is not yet comparable to the global prediction of the meat, poultry and seafood industry, which is estimated to be around US\$ 7.3 trillion by 2025 (Boukid, 2020). Analogue meat products are more homogeneous and last longer in dry storage. Analogue meat with high unsaturated fat content, zero cholesterol, zero antibiotics, and zero growth hormones has a good impact on health. In the industrial world, the price of meat analogue is 30-50% cheaper than the original meat (Winarno, 2012).

The disadvantage of analogue meat that is very common is the texture that does not resemble meat in general, but it is quite good if used as a meat substitute. Analogue meat also has advantages such as low processing costs, easier manufacturing processes as well as longer storage durability.

Processing analogue meat with breadfruit as the main raw material has a little difficulty due to the difficulty of finding breadfruit in certain months.

For the processing of analogue meat into Dendeng Balado, in my opinion, it can be developed, because it does not have problems with taste and is very safe for people who live a healthy life by reducing consumption of meat.

2.3 Process Review

Deep frying is a method of deep frying with oil, so that all parts of the of the fried food is submerged in the hot oil, thus the frying process will be faster, and all surface of the food will be exposed to a relatively uniform heat treatment (Rossel, 2000; Kurek et al., 2017; Liberty et al., 2019; Zhang et al., 2020). This technique is known to produce fried products with preferred characteristics, crispy texture, attractive color, savory taste, and distinctive aroma (Ballard, 2004). (Ballard, 2004), however, it has the shortcomings that generally contain a high proportion of cooking oil absorption because of food contact with cooking oil during the frying process (Mallikarjunan et al., 1997; Funami et al, 1999; Fellows, 2000; Kurek et al., 2017; Liberty et al., 2019; Zhang et al., 2020).

Steam is the process of cooking moist/wet, with heat from water vapor or known as steaming. A steamer consists of several pans that are arranged in layers. which are arranged upwards in layers. The bottom pot contains boiled water. The pans arranged above are perforated to allow water vapor to enter through the holes. Through the holes. Steamed food does not encounter water. This is done to keep the nutrients from being lost and to keep the texture of the food better. texture of the food so that it is better.